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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,793	09/15/2003	Alfred Hesener	WMP-IFT-679	9506
24131	7590	09/29/2006	EXAMINER	
LERNER GREENBERG STEMER LLP			RILEY, SHAWN	
P O BOX 2480			ART UNIT	
HOLLYWOOD, FL 33022-2480			PAPER NUMBER	
			2838	
DATE MAILED: 09/29/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/662,793	Applicant(s) HESENER, ALFRED	
	Examiner Shawn Riley	Art Unit 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 15-28 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/03;10/03;2/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 U.S.C. § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 15-28 are rejected under 35 U.S.C. §102(b) as being fully anticipated by Bryson (U.S. Patent 5,905,370). Bryson shows,¹ (in, e.g., the(ir) figures 1 and 5c and corresponding disclosure)

As to claim 15. A switching converter, comprising: a switch (36) including a control terminal, a first load terminal (drain), and a second load terminal (source); a rectifier configuration (38) connected to said switch, said rectifier configuration including a plurality of output terminals (e.g., 26 and ground) for providing an output voltage to a load (Vout); a controller configuration (connected to gate of 36) for providing a control signal dependent on the output voltage; and a drive circuit (42) for generating a plurality of identical drive pulses having a frequency dependent on the control signal; said plurality of drive pulses for turning said switch on and off.

¹ Note claims will be addressed individually and the material in parentheses are the examiner's annotated comments. Further unless needed for clarity reasons, recited limitation(s), will be annotated only upon their first occurrence. Annotated claims begin with the phrase "As to claim". Claims that are not annotated are seen as having already had the invention(s) addressed previously in an annotated claim and may be repeated for convenience of the applicant/examiner. Bolded words/phrases indicate rejected material based 112 paragraph rejections. Underlined words/phrases indicate objected to material.

Art Unit: 2838

As to claim 16. The switching converter according to claim 15, wherein said drive circuit is configured for generating the plurality of drive pulses with an identical duration (pfm) and at an identical time interval depending on whether the control signal is greater or less than a reference signal (e.g., a ground input into 22/20/etc or power good into 16/18, e.g.).

As to claim 17. The switching converter according to claim 15, wherein said controller configuration includes a proportional controller, a proportional-integral controller, or an integral controller (via the feedback).

As to claim 18. The switching converter according to claim 15, wherein said drive circuit includes a clocked comparator configuration (oscillator 34 into 20/22) being fed with the control signal, a first reference signal (e.g., ground) and a clock signal (output of 34).

As to claim 19. The switching converter according to claim 18, wherein: the clock signal has a timing (timing is the output value of the signal); said clocked comparator configuration generates the plurality of drive pulses if the control signal is greater than the first reference signal (via output of 18/20/22); and the plurality of drive pulses each have a predetermined time duration and a timing corresponding to the timing of the clock signal (comparators respond to 34).

As to claim 20. The switching converter according to claim 15, wherein said controller configuration is a digital controller configuration providing a discrete-time control signal (24 is a digital controller).

Art Unit: 2838

As to claim 21. The switching converter according to claim 20, wherein: said drive circuit includes a digital comparator configuration (18 which receives 5-Bit DAC input) and a pulse shaping filter (see e.g., figure 5c and c=2p) connected downstream of said digital comparator configuration; and said pulse shaping filter has an output for providing the plurality of drive pulses.

As to claim 22. The switching converter according to claim 15, wherein said controller configuration includes a noise shaping filter (C1) being fed with a signal dependent on the output voltage.

As to claim 23. The switching converter according to claim 15, further comprising: a level converter (22) having an input being fed with the plurality of drive pulses and an output connected to said control terminal of said switch.

As to claim 24. The switching converter according to claim 15, wherein said rectifier configuration includes a coil (L1) connected in series with said switch.

For method claim 25, note that under MPEP 2112.02, the principles of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. In re King, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986). Therefore the previous rejections based on the apparatus will not be repeated.

Art Unit: 2838

25. A method for driving a switch in a switching converter having a rectifier configuration connected to the switch, the method which comprises: generating a control signal dependent on an output voltage provided by the rectifier configuration; and generating a drive signal with a sequence of identical drive pulses having a frequency dependent on the control signal.

As to claim 26. The method according to claim 25, which comprises: providing the control signal with a signal component formed by integrating a differential signal made from a signal proportional to the output voltage and a reference signal (e.g., output C1 is integrated at VFB and feedback into 16 which is compared with IFB).

As to claim 27. The method according to claim 25, which comprises: providing the control signal with a signal component proportional to the output voltage (based on value of feedback versus a reference value).

As to claim 28. The method according to claim 25, which comprises forming the drive pulses with a timing of a clock signal depending on whether the control signal is greater or less than a reference value (via the feedback circuitry).

Allowable Subject Matter


3. No claims are allowable over the prior art of record.

Art Unit: 2838

Conclusion

Any inquiry from other than the applicant/attorney of record concerning this communication or earlier communications from the Examiner should be directed to the Patent Electronic Business Center (EBC) at 1.866.217.9197. Any inquiry from a member of the press concerning this communication or earlier communications from the Examiner or the application should be directed to the Office of Public Affairs at 703.305.8341. Any inquiry from the applicant or an attorney of record concerning this communication or earlier communications from the Examiner should be directed to Examiner Riley whose telephone number is 571.272.2083. The Examiner can normally be reached Monday through Thursday from 7:30-6:00 p.m. Eastern Standard Time. The Examiner's Supervisor is Karl Easthom who can be reached at 571.272.1989. Any inquiry about a case's location, retrieval of a case, or receipt of an amendment into a case or information regarding sent correspondence to a case **should be directed to 2800's Customer Service Center** at 571.272.2815. Any papers to be sent by fax MUST BE sent to fax number **571-273-8300**. Any inquiry of a general nature of this application should be **directed to the Group receptionist** whose telephone number is 571.272.2800. Status information of cases may be found at <http://pair-direct.uspto.gov> wherein unpublished application information is found through private PAIR and published application information is found through public PAIR. Further help on using the PAIR system is available at 1.866.217.9197 (Electronic Business Center).

September 06



Shawn Riley
Primary Examiner